

MARICOPA COUNTY
ENVIRONMENTAL SE TO ES DEPARTMENT
AIR QUALITY DIVISIO
1001 North Central Ave que
Phoenix, Arizona 850(4
(602) 506-6094, FAX 502) 506-6985, TTY (602) 506-6704
http://www.maricopa.gov/sbeap

FOR OFFICIAL USE ONLY
DATE RECEIVED
10, 15.04

LOG NUMBER
040134

# APPLICATION FOR NON-TITLE V AIR QUALITY PERMIT

(As required by A.R.S. \$49-480 and Maricopa County Air Pollution Control Regulations, Rule 200)
READ INSTRUCTIONS FIRST. ALL APPLICANTS MUST COMPLETE ITEMS 1 THROUGH 16. ALSO COMPLETE
FACH APPLICABLE SECTION A THROUGH 7

、旦	ACH APPLICABLE SECTION A THROUGH Z.	
	1. BUSINESS NAME: HICKMANS Egg Ranch 2. IS THIS A VES VIE VES PROVIDE THE CHERENT SITE INFORMATION IN ITEMS 20. 2 AND 20.	DO NOT WRITE IN THIS SPACE
FS	PORTABLE SOURCE?  NO (COMPLETE ITEMS 2a, 3, AND 3a)  NO APPERSON OF	AIRS IDENTIFICATION NUMBERS
	ADDRESS OF HICKMANS EGGRANCH) HASSAYAMPARSALOME HIGHWAY  ARCINETON AZ ZIP CODE: (NO MAN) 853	43
	3. CONTACT PERSON AT SITE: GLEN HICKMAN  3a. TELEPHONE AT SITE: 623 872	
4	1. TYPE OF OWNERSHIP: Corporation Partnership Sole Owner Government Other Specify:	<del></del>
5	NAME AND MAILING THOS N. 915 AVE HICKMAN EGG RANCI	++
	OF CALENDAL UN 85305 OWNERSHIP:	
6	6a. TELEPHONE:	
	Glen Hickman 623 872-1120	3
7	COMPANY CORRESPONDENCE INCLUDING INVOICE AND PERMIT TO:  COMPANY NAME: HICKMANS EGG RANCE ADDRESS: 7403 N.915 AVE	
	CITY: Glandale STATE: 22	ZIP CODE: 85305
	ATTN: Gelen Hickman	OODE. OODS
8	9. RENEWAL APPLICATION? YES NO IF YES: ENTER THE EXISTING AIR QUALITY PERMIT NUMBER FOR THIS SITE:	<u> </u>
1	OF BUSINESS/PROCESS Operation of an Incinerator AT SITE:	
1	1. OPERATING SCHEDULE: M-F HOURS PER DAYS PER WEEK 5 PER	KS YEAR 5Z
<u> </u>	2. THE AUTHORIZED CONTACT PERSON REGARDING THIS APPLICATION IS:	
	NAME Laurel Hodges TELEPHONE: 480	<u>5-705-9011</u>
	TITLE OWNER J FAX: 1480	-705 -9437
_ c	COMPANY (EL DESIGN) E-MAIL: CEL	DESIGN @ COX-NET
1	3. I CERTIFY THAT I AM FAMILIAR WITH THE OPERATIONS AND EQUIPMENT REPRESENTED ON THIS APPLIATTACHMENTS AND THE INFORMATION PROVIDED HEREIN IS TRUE AND COMPLETE TO THE BEST OF M	ICATION AND MY KNOWLEDGE.
	DATE 10/15/01 SIGNATURE OF OWNER OR RESPONSIBLE OFFICIAL OF BUSINESS	4/
	TYPE OR PRINT NAME AND TITLE GLEN HICKMAN	



Mr. Harry Chiu Maricopa County Environmental Services 1001 N. Central Ave Suite 500 Phoenix, AZ. 85004

10/7/2004

Re: Hickman's Egg Ranch: Hassayampa- Salome Highway Request for Incinerator Permit

Dear Mr. Chiu,

Attached please find the permit application for a Shenandoah A-27 poultry incinerator. The chicken carcasses are currently being dumped into the county landfill. The Hickmans would like to install this incinerator to reduce this waste and use the resultant ash in their fertilizer pellet operation.

I have supplied the emission data for an identical unit by this manufacturer. The data provided is for the A-15 Model which is smaller. The manufacturer has indicated that the emissions would be identical. We do understand that after installation, certified testing would be required.

Additionally you will see references to the onsite back-up generator system. Per the request of Aaron Corey I have included the generator data on this permit application.

If you have questions or need further information, please contact me.

Thank-you,

Laurel Hodges

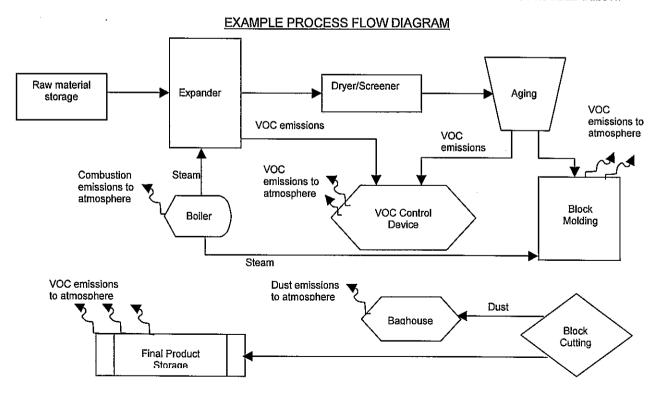
C.E.L. Design

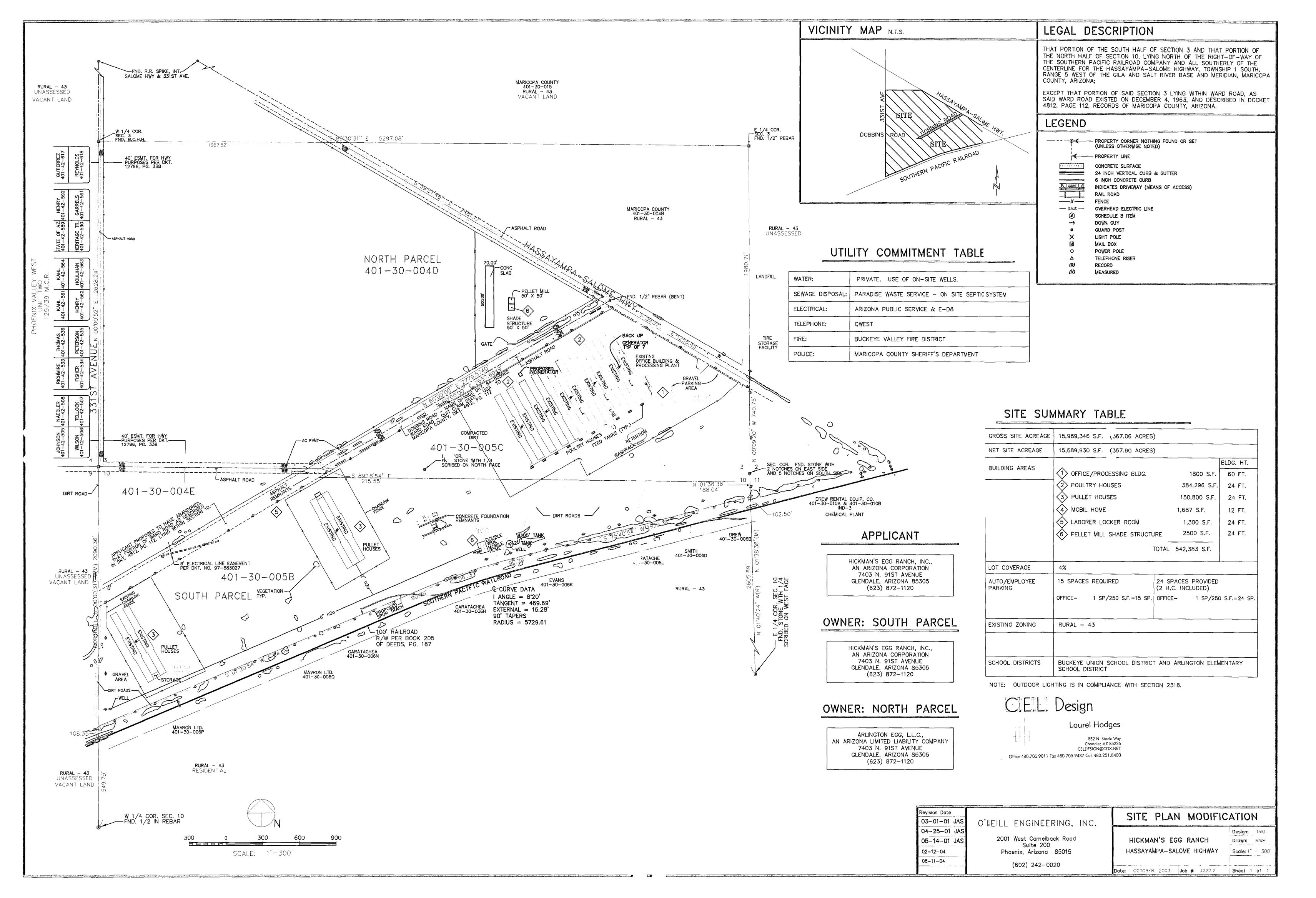
15. OPERATION & MAINTENANCE (O&M) PLAN(S): O&M PLANS ARE REQUIRED FOR ANY PROCESS THAT VENTS EMISSIONS THROUGH A CONTROL DEVICE AND INCLUDES BOTH ADD ON CONTROL TYPE EQUIPMENT OR PROCESSES WHOSE CONTROLS ARE INTEGRATED INTO THE DESIGN OF THE PROCESS EQUIPMENT. INDICATE IF YOUR FACILITY HAS SUCH CONTROL DEVICES (THE LIST BELOW IS NOT AN INCLUSIVE LIST OF CONTROL DEVICES).

EQUIPMENT	<u>NO</u>	<u>YES</u>	HOW MANY?
BAGHOUSE			
DUST COLLECTOR / FILTER			-
INCINERATION SYSTEM (E.G., CATALYTIC OR THERMAL OXIDIZER, AFTER BURNER, BOILER, PROCESS HEATER, FLARE) - SPECIFY:		Ø	
SCRUBBER			,
ADSORPTION UNIT (E.G., RESIN, CARBON FILTER, OTHER) - SPECIFY:			
ABSORPTION UNIT			
OTHER (specify):			

IF YOU CHECKED YES TO ANY OF THESE BOXES, ATTACH A SEPARATE O&M PLAN FOR EACH CONTROL DEVICE. THE O&M PLAN SHOULD DESCRIBE KEY SYSTEM OPERATING PARAMETERS AND APPROPRIATE OPERATING RANGES FOR THESE PARAMETERS. FOR NEW EQUIPMENT OR PROCESSES, PROVIDE AN EDUCATED ESTIMATE OF THE RANGES OF ANY PARAMETERS TO BE MONITORED. THESE RANGES SHOULD BE SUPPORTED WITH MANUFACTURER'S TEST DATA OR OTHER MANUFACTURER'S DATA FROM ENGINEERING CALCULATIONS AND/OR EXPERIENCE WITH THE EQUIPMENT. IN ADDITION, O&M PLANS SHOULD BE PREPARED IN ACCORDANCE WITH MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT - OPERATION AND MAINTENANCE (O&M) PLAN GUIDELINES. A COPY OF THESE GUIDELINES CAN BE OBTAINED ON OUR WEB SITE AT <a href="http://www.maricopa.gov/envsvc/AIR/permits/O&M.PDF">http://www.maricopa.gov/envsvc/AIR/permits/O&M.PDF</a> OR BY CONTACTING DIANA NINO AT (602) 506-6094. MULTIPLE CONTROL DEVICES CAN BE COMBINED IN A SINGLE O&M PLAN PROVIDING THEY ARE IDENTICAL IN TYPE, CAPACITY, AND USE. A SEPARATE O&M PLAN IS REQUIRED FOR EACH DEVICE THAT IS UNIQUE IN TYPE, CAPACITY, OR USE.

16. PROCESS FLOW DIAGRAM: ATTACH A FLOW DIAGRAM WHICH INDICATES HOW PROCESSES/ACTIVITIES ARE CONDUCTED AT THE FACILITY. BEGIN WITH RAW MATERIALS AND SHOW EACH STEP IN THE PRODUCTION PROCESS. ALSO INDICATE EMISSIONS CONTROL DEVICES AND ALL EMISSION POINTS. AN EXAMPLE PROCESS FLOW DIAGRAM IS PROVIDED BELOW.









#### FUEL BURNING EQUIPMENT SECTION A.

Complete this section if you burn natural gas, propane, butane, fuel oils, diesel, kerosene, gasoline, fuel oil blended with used oil, coal, charcoal, wood, or any other fossil fuel. Provide complete specifications for non-commercial and special fuels. Describe equipment such as boilers, furnaces, space heaters, water heaters, dryers, pool and spa heaters, kilns, ovens, burners, stoves, steam cleaners, hot water pressure washers, etc, with an input rating of 300,000 Btu/hr or more. List on separate lines all equipment with differing input Btu/hour ratings. Do not include vehicles, forklifts, lawnmowers, weedeaters and hand-held equipment operating on fossil fuels. Items such as asphalt kettles, incinerators, crematories, and emission control devices burning fuel are not to be listed in this section but shall be described in Section Y. Internal combustion engines and gas turbines are to be listed in Section B.

DESCRIBE AIR POLLUTION ABATEMENT/CONTROLS, IF ANY	MANY	HOURS IN OPERATION DAILY	HOURS IN OPERATION ANNUALLY	INPUT RATING (EACH) (Btu/hr or MM Btu/hr) MM Btu/hr = 10 <sup>6</sup> Btu/hr
3333		3		-
				<del></del>
		ND TO BURN USED OIL, USED OIL FUEL, HAZARDOUS WASTE		

#### INTERNAL COMBUSTION ENGINES & TURBINES < SECTION B.

This section applies to stationary and portable fuel-fired equipment such as generators, fire pumps, air conditioning compressor engines, co-generation units, etc. Indicate in the description if the equipment is only for emergency use. Attach engine emission factors or emissions data, and specification sheets from manufacturer. Provide load factor data from manufacturer if applicable. Do not include vehicles, forklifts, lawnmowers, weedeaters and hand-held equipment operating on fossil fuels.

	FUEL	EQUIPMENT DESCRIPTION. INCLUDE MAKE & MODEL. DESCRIBE AIR POLLUTION ABATEMENT/CONTROLS, IF ANY	DATE OF INSTALLATION	HOW MANY	NUMBER OF HOURS IN OPERATION DAILY	NUMBER OF HOURS IN OPERATION ANNUALLY	EQUIPMENT RATING (Btu/hr, h.p. or other rating)
/	DIESEL	ONAN GENERATORS 230KW	10/2001	7	loohrs each per year	100 Mrs Cach per year	300 HP

Backup generators for children houses 52 hrs of operation per unit per year

15 for Weekly testing





This section is intended for all emissions related activities, equipment and applicable emission controls which are not covered in previous sections. In response to item 2, provide a detailed step-by-step narrative, including how raw materials are handled, stored, processed, mixed, treated, and converted to finished products. Provide flow rates, temperatures, pressures, and other appropriate details concerning each process. Whenever available, provide manufacturer's data sheets and literature. Provide flow diagrams and layouts for each process. Describe in detail how waste materials are generated, handled, stored, processed, mixed, treated and disposed of. An Operation and Maintenance Plan for each air pollution control equipment is required. List each material that is partially recovered, salvaged or otherwise reclaimed. Provide estimates of the quantities of such material recoveries on an annual basis. Describe how the annual quantity figures were developed. USE A SEPARATE SHEET FOR EACH PROCESS OR ACTIVITY.

	ribe how the annual quant								CES	S OR ACTIVITY.
1. NAME OF	PROCESS, EQUIPMENT G	ROUPING OF	R ACTIVIT	Y: _{	oultry	1 IN	clneso	itar		
2. NARRATI\	VE DESCRIPTION: ) NC	incrator	to k	e Us	ied to	disp	se c	of poultry ,	CARC	<u> </u>
w resul	tant ash being	ia adde	d to	fer.	Heisser	Dell	et o	peration		
		7				1				
3. EQUIPME	NT LIST: Include machine	ry, storage s	silos, tank	ks, emis	steri contr	ol devic	es, etc.,	in this list.		
ASSIGNED EQUIPMENT	DESCRIBE EACH PIE		HOW	Ocot	ATE	HP, K∖	/A GAL	EX	HAUS	
NUMBER	EQUIPMENT INCLUDE MAKE & N	ODEL	MANY	INSTA	OF LLATION		THER ING	VENT TO AIR	VE	NT TO CONTROL (Identify)
	Shenandowh Azi	7 LP		1/1	1/04	9016	5/hr	<b>√</b>		
				/	1		,			
									1	· ,
<u> </u>			<del>4:</del>	<u>I-</u>	· :. · · · ·		·	· · · · · · · · · · · · · · · · · · ·	<del></del>	
resins, cle	S LIST: List all material eaning compounds, etc., aterial. Identify each mat	in this list. If	a materi	al conta	ains volati	le organ	ic comp	ounds (VOC) prov	le cha ide ti	emicals, mixtures, he required details
	MATERIAL	THRO	USAGE	•	CHEM COMPO (% by w	SITION	OF	RIAL RECLAIMED R SHIPPED AS WASTE		UIPMENT NUMBER IN WHICH USED
Chicken	C. (() A)	I	NOR LB/Y	R)			<del>i                                    </del>	LYR OR LB/YR)		
Crican	Cur Cuss	221,000 lbs/yr					ash ash			
·		(CN	10/cms	)			La	(211)		
<u> </u>	-									
								<u>.</u>		
										· · · · · · · · · · · · · · · · · · ·
5. DESCRIBE	CONTROL DEVICES:									
TY	PE OF DEVICE		NA	ME/ID	/ CAPACIT	Υ		DATE OF INSTALLATIO	N	CONTROL EFFICIENCY* (% WEIGHT)
			_							
manufacturer's pressure/tempe	TTEN DOCUMENTATION specifications and drawing rature gauges are indicated and paper and paper are indicated by the paper and paper are indicated by the pape	ngs for each ed. Attach a	air pollut n operati	ion cor on and	itrol device maintena	e listed. nce plan	Be sure for eac	e that the locations h piece of control e	of al equipr	II flow devices and ment listed above.
BAGHOUSE	NAL PARAMETERS: (SUCI E, ETC.)	1 AS PH OF		EK LIQI	JID, TEMP	ERATUF	RE OF O	XIDIZER, DIFFEREN	√TIAL	PRESSURE FOR
		···	<del></del>							<del></del>

FROM : VERN LEWIS WELDING

PHONE NO. : 6022529368

May. 28 2003 07:26AM F2



Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS Standards

#### 1. PRODUCT IDENTIFICATION

PROPANE **CHEMICAL NAME; CLASS:** 

SYNONYMS: Dimethylmethane, LP-Gas, Liquefied Petroleum Gas (LPG)

CHEMICAL FAMILY: Alkane (hydrocarbon)

FORMULA: C3H8

PRODUCT USE:

Document Number: 10076

For fuel and synthetic chemical use; food

additive, agricultural uses, aerosol propellant.

refrigerant.

SUPPLIER/MANUFACTURER'S NAME:

AIR LIQUIDE AMERICA CORPORATION

ADDRESS:

2700 Post Oak Drive

Houston, TX 77056-8229

**EMERGENCY PHONE:** 

CHEMTREC: 1-800-424-9300

BUSINESS PHONE:

General MSDS Information: 1-713/896-2896

Fax on Demand:

1-800/231-1366

#### 2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME:	CAS#	mole %	EXPOSURE LIMITS IN AIR					
		1	ACGIH		OSHA		•	
			TLV	814L ppm	PEL ppm	STEL.	IDLH ppm	OTHER
Propare	74-98-5	> 96%	Simple Asphyxiant	NE .	1000	NE	2100	NIOSH REL; 1000 ppm DFG MAK: 1000 ppm
Maximum Impurities < 4.0%		None of the trace impurities in Propane contribute significantly to the hazards associate! with the product. All hazard information pertinent to Propane has been provided in this Material Safety Data Sheet, per the requirements of the OSHA Hazard Communication. Standard (29 CFR 1910.1200) and State soutvalents statistized.						

NE = Not Established

C = Celling Limit

NOTE: all WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-1993 format.

FROM : 'VERN LEWIS WELDING



### 3. HAZARD IDENTIFICATION

PHONE NO.: 6022529368

EMERGENCY OVERVIEW: Propane is a colorless, liquefied, flammable gas with a natural gas odor, which rapidly turns into a gas at standard atmospheric temperature and pressure. Both the liquid and gas pose a serious fire hazard when accidentally released. The gas is heavier than air, and may spread long distances. Distent ignition and flashback are possible. Rapid evaporation of liquid from cylinder may cause frostbite. Flame or high temperature impinging on a localized area of the cylinder of Propane can cause the cylinder to burst or rupture without activating the cylinder's relief devices. Propane is an asphyxiant and presents a significant health hazard by displacing the oxygen in the almosphere. Provide adequate fire protection during emergency response situations.

OVER-EXPOSURE BY ROUTE OF **OF** EXPCISURE: The most significant route of over-exposure for Propene is by inhalation.

INHALATION: At high concentrations, Propage can act as a narcotic. High concentrations of this gas can cause an oxygendeficient environment. It should be noted that before suffocation could occur, the lower flammability limit of propane in air would be exceeded; possibly causing an oxygen-deficient and explosive atmosphere. Individuals breathing an oxygen deficient atmosphere may experience symptoms which include head iches. ringing ln ears, dizziness, unconsciousness nausea, vomiting, and depression of all the senses. Under some circumstances of over-exposure, death may occur. The following effects associated with various levels of oxygen are as follows:

#### CONCENTRATION

#### 12-16% Oxygen:

#### SYMPTOM OF EXPOSURE

Breathing and pulse rate increased, coordination slightly

muscular disturbed.

10-14% Oxygen:

Emotional upset, abnormal fatigue,

disturbed respiration.

6-10 % Oxygen:

Nausea and vomiting, collapse or loss

of consciousness.

Below 6%:

Convulsive movements, possible respiratory collapse, and death.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. Over-exposure to this g: s mixture may cause the following health effects:

ACLITE: The most significant hazard associated with Propane is inhalation of oxygen-deficient atmospheres. Symptoms of exygen deficiency include respiratory difficulty, ringing in ears, headaches, shortness of breath, wheezing, headache, dizziness, indigestion, nausea, and, at high concentrations, unconsciousness or death may occur. The akin of a victim of over-exposure may have a blue color.

CHRONIC: There are currently no known adverse health effects associated with chronic exposure to the components of this compressed gas.

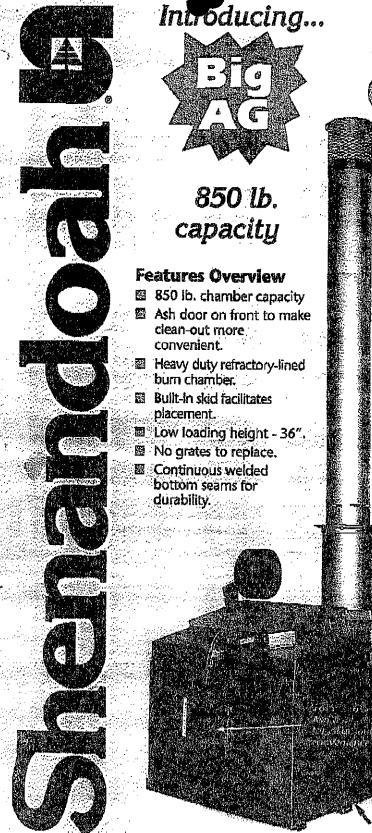
TARGET ORGANS: Respiratory system.

#### 4. FIRST-AID MEASURES

RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO PROPANE WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus and Fire-Retardant Personal Protective equipment should be worn. Adequate lire protection must be provided during rescue situations.

Remove victim(s) to fresh air, as quickly as possible. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary.

HAZARDOUS MATERIAL INFORMATION SYSTEM HEALTH (BLUE) FLAMMABILITY (RED) REACTIVITY WOLLEN В PROTECTIVE EQUIPMENT ROW RESPIRATORY HANDS See Section 8 For routine industrial applications



AGFICUITURAL

AGFICUITURAL

CREMATOR

Designed for large farms.

Bio-security is a prime concern at all poultry operations.

Daily mortality can spread disease and attract rodents and flies.

Eliminate these problems with cremation.

Now... a cremator model designed for the needs of large farms with up to 175,000 broilers or 42,500 turkeys.

70% more capacity than our Model A15!

The same efficient combustion technology found on all Shenandoah cremators

#### Ease of use

- Auto Ignition. No pilots to light. Set the timer and walk away.
- Single burner reduces maintenance cost.

### Fuel efficiency

- Rapid burn rate means low fuel consumption.
- Thick refractory lining in main chamber retains heat, increasing efficiency.

## Quality built to last

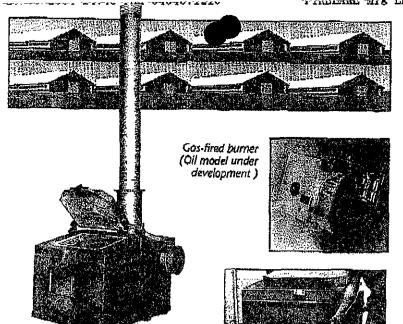
- Heat resistant aluminized steel.
- Industrial strength refractory.
- Backed by over 30 years of Shenandoah incineration experience.

Shenandoah Manufacturing Co., Inc. 1070 Virginia Ave., Harrisonburg, VA 22802 USA Call toll free: 800-476-7436 Internet: www.poultry-equipment.com

Distr	ibuted	By:

Built-in skid designed for locklifts

TRUTTUTE INTO LIP



- Low height makes job easier

Model A-22

- Top loading

# The be this of cremation . . .

Sanitary

Waste can be destroyed as fast as it accumulates. Nothing is left to spread disease or to attract rodents and flies.

Convenient

Fill the chamber and turn on the burner.
No watching required since timer automatically shuts down burner after a complete burn.
Compared to composting, Shenandoah's cremators require much less time to manage and maintain.

Thorough

Leaves only sterile white ash and brittle bone fragments. Reduces 850 lbs. of animal carcasses to approximately 42½ lbs. of sterile residue. No turning of contents needed to get a complete burn, as required with competitive units.

Applications
Poultry

Thousands of incinerators are being used to dispose of poultry carcasses and other pathological waste.

Model A27 will handle the mortality produced by: 170,000 broilers, pullets, commercial layers 120,000 breeders 42,500 turkeys

# Specifications Summary

MODELS

A27-16 Single burner gas-fired incinerator
A27-10 Oil-fired incinerator - available soon
Add "N" to model for natural gas. Call for availability on oil model

Hinged 16%" x 6%" ash door for easy deanout

Chamber capacity (Type IV waste -animals)		850 lbs	387 kg
Chamber volume		26.5 feet 3	75 m <sup>3</sup>
Chamber size (outside) Less arms & burner	Width Height Length	441/2" 45" 60"	113 cm 114 cm 152 cm
Door opening		21" x 27"	53 x 69 cm
Height to door		36*	91 cm
Height to top of stack		16′	4.8 m
Suggested slab size (1 x )	v. x.thick)	8' x 10' x 4"	24mx3mx10cm

ACK 2'-14" dia. (36 cm), 14 gauge (1.90 mm) aluminized steal, refractory lined 8'-12" dia. (30.5 cm), 16 gauge (1.52mm) stainless steel Stack cap Stainless steel screened

SURNERS

• LP or natural gas burner with spark ignition and florne safety shut-off

• Oil burner under development. Call to ask about availability.

Operation One 12-hour manual timer

GENERAL

Electrical service

Standard—115 volt, 60 HZ, 20 amp Available soon —220 volt, 50 HZ, 10 amp **Charging Rate** 

Pathological: Up to 850 lbs per charge of typical pathological waste with a BTU/lb. rating of 1000. Batch loaded allowing complete burn-out in approximately 8-9 hours. For best results, cool down and remove ash before reloading.

Burn rate: 90 - 95 lbs/hr. (43 kg/hr.)

#### installation

Must be installed in accordance with local codes and ordinances, subject to regulatory agencies. Stack test data is available from the distributor for permit application, if on-site testing is required, it is the responsibility of the purchaser and can be arranged through the distributor. Outside installation is recommended with a simple metal roof or three-sided metal shelter, providing a minimum of four foot clearance from any combustible material. Inside installations may have special insurance requirements. Factory must be advised.

Patent Pending

Total weight (approx.) 4000 lbs 1820 kg

Fuel consumption
LP 7.2 GPH 27.3 l/hr
Natural 660 CFH 18.7 m<sup>3</sup>/hr
Fuel oil not available

The policy of Sherandout Manufacturing is one of spatruous product imparation). We serve the right to alter specifications without page notice.

O 2002 Shorandosh Manutachuring Co., Inc.



# Shenandoah

Shenandoah Manufacturing Co., Inc. 1070 Virginia Ave, Harrisonburg, VA 22802 USA Phone: 540-434-3838 Fax: 540-434-3068

On the Internet: www.poultry-equipment.com





# MODEL A27 INCINERATOR "BIG AG"

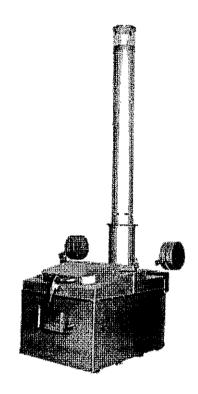
Designed with Large Production poultry farms in mind. ... Efficiently burns 850 lbs. carcasses in one load!

#### **Features Overview**

- 850 lb. (387 kg) load capacity.
- One A27 is recommended for the following:

   175,000 broilers, pullets,
   commercial layers
   120,000 breeders
   42,500 turkeys
- Low 36" chamber height for easy loading
- Hinged ash door for convenient cleanout.
- Heavy-duty industrial refractory lining retains heat for efficient operation.

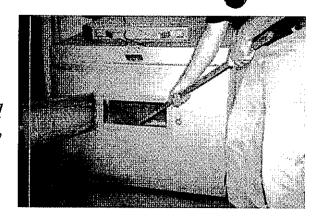
## **Download Brochure**



## Ease of Use

- Auto ignition. No pilots to light. Set the timer and walk away.
- Single burner reduces maintenance cost.
- Built-in skid facilitates placement





Hinged 16" x 6" ash door makes cleanout quick and easy

# Fuel Efficiency

- Rapid incineration means low fuel consumption.
- Higher burn rate than smaller models.
- Thick refractory lining in main chamber retains heat, increasing efficiency.

# Quality Built to Last

- Heat resistant aluminized steel.
- Stainless steel stack.
- Continuous welded bottom seams for durability
- Backed by over 30 years of Shenandoah incineration experience.

# The Benefits of Incineration . . .

**COST EFFICIENT -** Compare incineration to composting. North Carolina State

University conducted and study and found costs of incineration to be very favorable!

Click here for more info...

**SANITARY** - Waste can be destroyed as fast as it accumulates. Nothing is left to spread disease or to attract rodents and flies.

**CONVENIENT** - Fill the chamber and turn on the burner. No watching required since timer automatically shuts down burner. Alternative methods frequently require more time to manage and maintain.

**THOROUGH** - Leaves only sterile white ash and brittle bone fragments. Reduces 400 lbs (181 kg) of animal carcasses to approximately 20 lbs (9 kg) of sterile residue.



# Applications

Designed specifically for poultry.

Thousands of incinerators are being used to dispose of poultry carcasses and other pathological waste.

# Charging Rate

**PATHOLOGICAL** - Up to 850 lbs. (387 kg) per charge of typical pathological waste

with a BTU/lb rating of 1,000. Batch loaded allowing complete burn out in approximately

8-9 hours. For best results, cool down and remove ash before reloading.

BURN RATE - 90 - 95 lbs/hr. (41 kg/hr.)

#### Installation

Must be installed in accordance with local codes and ordinances, subject to regulatory agencies.

Stack test data is available from the distributor for permit application. If on-site testing is required,

it is the responsibility of the purchaser and can be arranged through the distributor. Outside installation

is recommended with a simple metal roof or three-sided metal shelter, providing a minimum four foot

clearance from any combustible material. Inside installations may have special insurance requirements.

Factory must be advised.

<b>Specifications Summary</b>		All installations must be in accordance with state and local codes.					
A27-1G Sing		gle burner gas-f	gle burner gas-fired incinerator				
MODEL	<b>A12-10</b> Sin	A12-10 Single burner oil-fired incinerator					
WASTE CHA	MBER						
Chamber capa (Type IV wast	•	850 lbs	387 kg				
Chamber volume		26.5 feet <sup>3</sup>	.75 m <sup>3</sup>				

•						
Chamber size	Width	44.5"	114 cm			
(outside) (less burner and	Height	45"	86 cm			
counter weights)	Length	60"	152 cm			
Door opening	1 to	21" x 27"	53 x 69 cm			
Height to door		36"	91 cm			
Height to top of sta	ick	16'	4.8 m			
Suggested slab size (L x W x Thicknes		8' x 10' x 4"	2.4 m x 3 m x 10 cm			
steel refracto		cm), 14 gauge (1.90 mm) aluminized ry lined				
STACK	8'-12" dia. (30.5 cm), 16 gauge (1.52 mm) stainless steel					
BURNERS	and spark igni	ural gas burner with electronic flame safety ignited intermittent pilot.				
OPERATION	One 12-hour n	nanual timer				
		Standard - 115 volt, 60 HZ, 20 amp				
ELECTRICAL SI	ERVICE	Also available - 220 volt, 50 HZ, 10 amp				
TOTAL WEIGHT	Γ (approx.)	4,000 lbs	1820 kg			
FUEL	LP	7.2 GPH	27.3 l/hr			
CONSUMPTION	Natural	660 CFH	18.7 m <sup>3</sup> /hr			

The policy of Shenandoah is one of continuous product improvement. We reserve the right to alter specifications without prior notice.











© Copyright by Shenandoah 2003, all rights reserved.



## TEST DATA SUMMARY

UNIT TESTED: A15-1G

DATE TESTED: May 11, 2000

	909	910	911	
TEST NUMBER:	- 7	· .	27.T	Average
Sampling Parameters				
Total Sampling Time, Min	80	80	80	80
Volume of Gas Sampled, dscf	30.1	32.1	35.8	32.7
Isokinetic Sampling, %	101	107	107	105
Auxilliary Fuel, cu.ft.	31.3	30.6	30.4	30.8
Stack Gas Parameters				
Average Velocity, fps @ Stack Cond.	12.9	13.9	14.6	13.8
Average Flow Rate, acfm @ Stack Cond	. 607.6	654.3	688.4	650.1
Average Flow Rate, dscfin	148.6	145	160.3	151.3
Moisture Content, Vol. %	16.2	19	17.5	17.6
Particulate				
Particulate Concentration, gr/dscf Particulate Concentration, gr/dscf @ 7%O2	.028 .034	.066	.072 .0 <b>76</b>	.055 .058
Particulate Emissions, lbs/hr	.036	.082	.099	.072
Particulate Emissions, lbs/100lbs.	.051	.117	.143	.104

## BURNING AND CHARGING RATES

(Burn rate = charge weight less ash divided by length of burn)

	Test No.	Burning Rate-lbs/hr.	Charge Weight-lbs.	Ash Weight-lbs.
969		69.6	500	13
910	***	<b>69</b> .6	500	13
911	<b>y</b> . 7	69.6	500	13

# "RAW" TEST DATA SUMMARY

TEST NUMBER:	909	910	911	Average
Tatal Campling Time				
Total Sampling Time, min.	80	80	80	80
Barometric Pressure, In Hg	28.58	28.58	28.58	28.58
Ambient Temperature, °F	57	64	73	64.7
Pitot CP	.83	.83	.83	.83
Nozzle Diameter, Inches	.582	.582	<b>.5</b> 82	.582
Nozzle Area, Square Inches	.00185	.00185	.00185	.00185
Gas Meter Calibration Factor (Y)	.972	.972	. <del>9</del> 72	.972
Number of Points	16	16	16	16
Minutes per point	5	5	5	5
Static Pressure, Inces WC	.09	.10	.10	.096
Delta P's (Sq. root) Inches WC	.123	.128	.137	-129
Delta H, Inches WC	.47	.52	.63	.54
Gas Meter Volume, cu. ft.	30.121	32.051	<i>35.75</i> 8	32,643
Gas Meter Temperature, °F	67	83	86	79
Gas Meter Temperature, R	527	543	546	539
Stack Temperature, °F	1275	1390	1335	1333
Stack Temperature, °R	1735	1850	1795	1793
Dry Catch (Mn) mg	52.4	127.3	155.8	111.8
Total Catch (Mt) mg	52.7	127.6	156.2	112.2
Volume of CO <sub>2</sub> per/lb of fuel (Rf) in lbs.	31.3	30.5	30.4	30.7
% CO₂	8.0	10.4	9.6	9.3
%O₂	9.6	6.7	7.7	8.0
$N_3$	82.3	82.9	82.7	82.6
CO ppm	0.0	0.0	0.0	0.0

39963

BATE BITLE FOLL

#### SUMMARY OF RESULTS, A15-1G (POULTRY WASTE)

#### CONCLUSION

The series of Method 5 stack tests performed on the A15-1G incinerator confirms that the incinerator meets the requirements established by Shenandoah Manufacturing Co.

#### OPACITY

Within the Method 5 stack testing time-frame and subsequent remainder of burn time, no visible emissions were observed.

#### PROBLEMS ENCOUNTERED:

No problems were encountered.

2

# Maricopa County

ES024206	Maricopa County Environmental Services Department Revenue Receipt		Cas	Amount: 350 Cash: Check: 038447					
Name: HICKMAN	EGG RAN	\$\tau_{\text{c}}  \tex	**************************************	ORDERH	0029 350.	**			
ENVIRONMENTAL HEALTH REVENUES									
☐ Permit Fee ☐ Plan Review ☐ Food Handlers ☐ Family Day/Seasonal	☐ Special Events ☐ Solid Waste ☐ On-site WW ☐ Pools  AIR OUA	☐ Subdivisions ☐ W/WW Trtmnt. ☐ Drinking Water ☐ List/Code/Copy  LITY REVENUES		☐ Fines ☐ Grants ☐ Misc. ☐ Telephon	e	*			
□ Annual/Late Fee □ Vapor Recovery □ Erthmving/Burn □ Non-Title V  Permit # 64036	☐ NESHAP Fee ☐ Title V ☐ Eng Hrs-Lrg. Srce. ☐ Eng Hrs-Sml. Srce.  Application #	☐ Authority to Cnstr. ☐ Fines & Forfeits ☐ AQ Revisions ☐ Emissions		□ Copies/R □ Grants □ Misc. □	ules				
Memo:		<del></del>							
		24.							
	Signat	ure: <u>OM</u>							

White - Customer Goldenrod - Permit File Hard Copy - Office

# MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT



#### BUSINESS SERVICES DIVISION 1001 N Central Ave, Suite 100 Phoenix, AZ 85004

HICKMANS EGG RANCH INC HICKMANS EGG RANCH 7403 N 91 AVE GLENDALE, AZ 85305

Permit: 040136

Expiration:

HICKMANS EGG RANCH

**HASSAYAMPA DR ARLINGTON 85343** 

ENCLOSED IS A COPY OF YOUR RECEIPT NUMBER \_\_ES024206 IN THE AMOUNT OF

\$350.00 THAT WAS APPLIED TO: AIR

**NON-TITLE V** 

PERMIT APPLICATION

IF YOU HAVE ANY QUESTIONS PLEASE CALL (602) 506-6464

Application ID: 264976